



Differentiators – The Facts

	EtherNet/IP™	PROFINet®
Established	<ul style="list-style-type: none"> • 2001 – I/O control along with collect, configure and peer-to-peer communication capabilities • EtherNet/IP and Modbus TCP have a commanding lead in the number of nodes shipped (Figure 1) • Over 830,000 Rockwell Automation nodes shipped and over 1,300,000 total ODVA nodes as of 2006 • Over 170 companies have Vendor IDs • Over 430 products • Global standard for General Motors and USCAR • Nearly every RA customer uses EtherNet/IP for HMI, programming, etc. 	<ul style="list-style-type: none"> • Pre 2002 – programming only protocol (Siemens SINEC H1) • 2002 – programming and peer-to-peer communication (V1) • 2004 (Aug) – 1st I/O control capability (V2.1) shipped with only a few products available • Shipped about 8% as many nodes as EtherNet/IP in 2004 • Claim 14 million nodes but that includes all Siemens PROFIsomething networks ever produced, (plus Interbus-S nodes). They have not released PROFINet specific totals
Standard	<ul style="list-style-type: none"> • Works with standard commercial or industrial grade switches • Uses the same TCP/IP and Ethernet technologies as the world wide web and thus needs no proprietary hardware (Figure 2) • Uses the proven Common Industrial Protocol (CIP) 	<ul style="list-style-type: none"> • V1.0 and V2.1 use standard switches but this technology is not widely used or promoted by Siemens or PTO • V3.0 enabled devices only communicate through proprietary PROFINet hardware (switching functionality) which is embedded in end devices on the network • Uses a modified version of the standard OSI model (Figure 3)
More Than a Fieldbus	<ul style="list-style-type: none"> • Works with both commercial and industrial technologies to solve existing and new applications • IT staff can use their preferred infrastructure components (i.e. switches and media) • Works with all tools and management products used by IT department • EtherNet/IP has only 1 version with all functionality described 	<ul style="list-style-type: none"> • V3 tunnels TCP/UDP/IP and may be able to use commercial and custom technologies, but does so with non-standard hardware and unknown performance • Uncommon infrastructure setup for IT staff and thus requires extra training and knowledge, also may not be compatible with all tools and management products required by IT department • 3 different versions to solve different applications (V1.0 Peer-to-peer only, V2.x I/O control, V3.0 motion control)